



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,526	12/18/2001	Johan Nilsson	47253-00034	6219

7590 02/09/2005
Stanley R. Moore, Esq.
Jenkins and Gilchrist, P.C.
3200 Fountain Place
1445 Ross Ave.
Dallas, TX 75202

EXAMINER

BHATTACHARYA, SAM

ART UNIT PAPER NUMBER

2687

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/025,526

Applicant(s)

NILSSON ET AL.

Examiner

Sam Bhattacharya

Art Unit

2687

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 16-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 16-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Bergstrom et al. (US 6,131,013).

Regarding claims 16 and 21, Bergstrom et al. disclose a mobile communications terminal 304 comprising: an electronic circuit 314 configured to receive a wireless communications signal carrying signal channels with transmitted information, the electronic circuit comprising signal processing units adapted to provide at least one of: a signal representing gain from an automatic gain control unit (gain signal); a transmission power control command signal (TPC command signal); an interference estimate signal; a signal representing strength of the wireless communications signal; and a signal representing a signal-to-interference ratio; an interference classifier adapted to classify a type of interference affecting communications quality by evaluating time-domain behavior of at least one of the gain signal, the TPC command signal, the interference estimate signal, the signal representing the strength of the wireless communications signal, and the signal representing the signal-to-interference ratio; and wherein the type of interference is classified in one of at least two predetermined classes of interference. See col. 3, lines 39-51, and col. 6, line 56 – col. 7, line 35. Signal processing units in Bergstrom are

Art Unit: 2687

adapted to provide a signal representing signal-to-noise (or interference) ratio of the received signal.

Regarding claims 17 and 22, Bergstrom et al. disclose a first class of interference includes inter-cell interference; and a second class of interference includes intra-cell interference. See col. 5, lines 52-58.

Regarding claims 18 and 23, Bergstrom et al. disclose means for processing the communication signal in a first of at least two ways; and wherein the first way is selected dependent upon a classified type of interference. See col. 8, lines 9-22.

Regarding claim 19, Bergstrom et al. disclose means for processing the wireless communication signal via a set of filter coefficients selected dependent upon of a classified type of interference. See col. 18, line 49 – col. 19, line 5.

Regarding claims 20 and 24, Bergstrom et al. disclose that the filter means comprises a low-pass filter; and the low-pass filter has a relatively wide band-width when interference is classified to be intra-cell interference and a relatively narrow band-width when interference is classified to be inter-cell interference. See FIGS. 17 and 23, col. 16, lines 10-19, col. 19, line 50 – col. 20, line 30.

Regarding claims 25 and 27, Bergstrom et al. disclose a mobile communications terminal comprising: an electronic circuit configured to receive a wireless communications signal carrying signal channels with transmitted information, the electronic circuit comprising signal processing units adapted to provide at least one signal for at least one of adjusting, verifying, and demodulating the wireless communication signal, an interference classifier adapted to classify a type of interference affecting communications quality by evaluating time-domain behavior of at

Art Unit: 2687

least one of the at least one signal; and wherein the type of interference is classified in one of at least two predetermined classes of interference. See col. 3, lines 39-51.

Regarding claims 26 and 28, Bergstrom et al. disclose the at least one signal comprises at least one of: a signal representing gain from an automatic gain control unit (gain signal); a transmission power control command signal (TPC command signal); an interference estimate signal; a signal representing strength of the wireless communications signal; and a signal representing a signal-to-interference ratio. See col. 6, line 56 – col. 7, line 35.

Response to Arguments

3. Applicant's arguments filed 10/4/04 have been fully considered but they are not persuasive.

Applicant argues that in contrast to the Bergstrom reference, the claims of the present invention recite an interference classifier that classifies a type of interference affecting communications quality by evaluating time-domain behavior of at least one of an AGC signal, a TPC command signal, an interference estimate signal, a signal representing a signal strength of a wireless communications signal, and a signal representing a signal-to-interference ratio.

Examiner respectfully disagrees. Bergstrom states that performance estimator 66 receives reconstructed data from the decoder 60 and analyzes the data to calculate one or more performance metrics, which are transferred back to interference suppression 42. Moreover, interference suppression processor 42 is used to determine the type of interference that is present in the receive signal and to perform interference suppression on the signal based on the types of interference identified. See col. 7, lines 21-35. Thus, Bergstrom clearly teaches that a signal

representing signal-to-interference ration is evaluated and that the interference clearly affects communication quality.

Applicant further argues that the present invention distinguishes from the Bergstrom reference in that the claims of the present invention recite an interference classifier that classifies a type of interference by evaluating time-domain behavior of at least one of at least one signal for one of adjusting, verifying and demodulating a wireless communications signal.

Examiner respectfully disagrees. Bergstrom teaches that an estimate of the bit error rate that is achieved by demodulating and decoding the received signal without interference suppression is calculated using the estimated power and bandwidth information and the classification information, step 164 of FIG. 20.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2687

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Bhattacharya whose telephone number is (703) 605-1171.

The examiner can normally be reached on weekdays 8:30 a.m. to 6:00 p.m., first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid can be reached on (703) 305-3016. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sb


SONNY TRINH
PRIMARY EXAMINER